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Attorney's Docket No.: 42390.P4925

Patent

In re the Application of: D. Michael Bell
(inventor(s))

Application No.: 08/934,968

Filed: 9/22/97

For: METHOD AND APPARATUS FOR PROVIDING AND EMBEDDING CONTROL INFORMATION
IN A BUS SYSTEM
(title)

ASSISTANT COMMISSIONER FOR PATENTS
Washington, D.C. 20231

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)

D. MICHAEL BELL)

Application No. 08/934,968)

Filing Date: September 22, 1997)

For: METHOD AND APPARATUS FOR)
PROVIDING AND EMBEDDING)
CONTROL INFORMATION IN A BUS)
SYSTEM)

Examiner: Phan, R.

Art Unit: 2781

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Appellant's Reply Brief

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Pursuant to 37 CFR §1.193, Appellant is filing this reply brief which addresses certain of the Examiner's new points of argument which were raised in the Examiner's Answer. This reply brief is being submitted in triplicate. Please charge deposit account No. 02-2666 for any fees required in filing this reply brief.

IDENTIFICATION OF, AND REPLY TO, NEW POINTS OF ARGUMENT

The following points of argument have been either newly presented in the Examiner's Answer or presented in a different light by the Examiner than earlier in the record.

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(1) In the Examiner's Answer on page 4, the Examiner rebuts Appellant's argument A¹ in Appellant's Appeal Brief, and newly argues Ward. Specifically, the Examiner states:

As (1), Ward disclose the client entity 202 (i.e. first device sending a request to the server entity 208 (i.e., second device) by placing the request control element 204 (see figure 1, col.3, lines 48-62) wherein the request control element 204 contains a format identifier, a length field, common indicators field, source and destination fields, a correlation field and an entity-to-entity field that varies length (see col.5, lines 40-45); the server 208 (i.e. second device) generates the control element 216 (i.e., reply) which contains (i.e. copies) the data into the control element 216 along with the fields (see figure 1, col.4, lines 11-30).

(Examiner's Answer ¶14).

It appears that Ward in the specification refers to reference numerals 202, 204, 208, and 216 to describe Figure 1, however, Figure 1 refers to reference numerals 102, 104, 108, and 116, respectively. Consequently, Appellant refers to the reference numerals as indicated in the specification of Ward.

Appellant submits that Ward, with respect to Examiner's above rebuttal and Figure 1, fails to disclose or suggest a first device issuing a request comprising a plurality of fields including device configurable field to a second device, and the second device issuing a reply comprising a plurality of fields, one of which contains a copy of the data located in the device configurable field of the request to the first device.

¹ A. The Ward reference does not teach or disclose a first device sending a request to a second device, a request comprising a plurality of fields including a device configurable field containing device configurable data, and a second device copying a device configurable data from the device configurable field of the request into a designated field of the reply and issuing a reply. See Appellant Appeal Br. at 4 (Argument A).

In particular, Ward discloses:

FIG.1 shows the general flow of data and control information used in the invention. Client entity 202 sends a request to a server entity 208 by placing a request control element 204 on its outbound pipe 206. Server entity 208 reads the request control element from pipe 206, and performs the requested task. Pipe 206 is a defined block of addresses in shared memory. Commands and control information are contained in control element 204. If data is to be transferred from the client to the server, it is transferred in one of two ways. First, it can be directly transferred within a variable length field of the control element 204. The control element, including the placement of data within the control element, will be discussed in more detail hereinafter with reference to FIG. 3. Second, data can be transferred between client and server via buffer 210.

(Ward Col.3, lines 48-63)(emphasis added).

Ward further discloses that:

The server, or receiving unit 208, retrieves control element 204 from pipe 206, and executes the work request contained in the control element 204. Server 208 takes action to respond to the request, and replies to the client 202 by sending control element 216 on pipe 212. If the server is sending data to the client, control element 216 will contain the data, or point to buffer storage 210 for transfer of the data. As was the case with client 202, server 208 does not wait for a response from the client, but proceeds to perform other tasks, such as the retrieval of additional control elements from pipe 206.

(Ward Col.4, lines 11-22)(emphasis added).

In Ward, client entity 202 (which Examiner associates with as the claimed first device) does not send a request comprising a plurality of fields including device configurable field to server entity 208 (which Examiner associates with as the claimed second device). The Examiner associates control element 204 with the claimed "request," however, as disclosed by Ward control element 204 contains commands and control information, which is not a "device configurable

field" as claimed. In fact, in the Examiner's Answer, the Examiner concedes that Ward does not disclose "the field including the device configuration field."²

Furthermore, although Ward does disclose that server 208 takes action to respond to the request (from client entity 202) and replies to the client 202 by sending control element 216 on pipe 212, control element 216 is not a reply comprising a plurality of fields, one of which contains a copy of the data located in the device configurable field of the request to the first device, as claimed. In particular, Ward discloses that if server 208 is sending data to the client, control element 216 (which is considered by the Examiner to be the claimed "reply") will contain the data, or point to buffer storage 210 for transfer of the data. Thus, nowhere in Ward does it disclose or suggest a second device issuing a reply comprising a plurality of fields, one of which contains a copy of the data located in the device configurable field of the request to the first device.

(2) In the Examiner's Answer on pages 4-5, the Examiner provides a rebuttal to Appellant's argument B³ of Appellant's Appeal Brief, and newly argues the combination of Ward and Glassen. Specifically, the Examiner states:

As (2), Examiner contends that applicant's arguments against the reference individually (i.e. device configurable field) that one cannot show non-obviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck &*

² See Examiner's Answer ¶12 ("But Ward does not disclose the field including the device configuration field.").

³ B. The combination of the Ward and Glassen references does not teach or disclose a first device sending a request to a second device, a request comprising a plurality of fields including a device configurable field containing device configurable data, and a second device copying a device configurable data from the device configurable field of the request into a designated field of the replay and issuing a reply. See Appellant Appeal Br. at 7 (Argument B).

Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Examiner acknowledged that Ward does not disclose the device configurable field along with the request however Examiner found Glassen reference to remedy the deficiencies of Ward reference. Glassen reference discloses the programmable subchannel which detect and establish the device I/O configurable fields for each device connected to the plurality of channels (see col. 5, line 65 through col. 6, line 47). By having the remedy of Glassen reference, it would provide a dynamically changing configuration for devices within a sharing system. The examiner recognizes the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case the combination of Glassen reference into Ward. Examiner found the device configurable fields in Glassen reference to remedy the deficiencies in Ward reference.

Furthermore, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case the combination of Glassen into Ward provide a dynamically changing configuration of devices within a sharing system.

(Examiner's Answer ¶14).

(i) Appellant respectfully submits that the Examiner newly argues and asserts that Appellant is attacking the references of record (Ward and Glassen) individually and not on the combination of the references, which the Examiner asserts is improper. This assertion is incorrect. For example, on page 8 of Appellant's Appeal Brief, Appellant argues that "Applicant fails to understand the motivation to combine the references as noted in the final office action as the references describe two different architectures and processes." Also, Appellant

argues that "however, even if there was a teaching to combine, the combination of Ward and Glassen, neither teaches nor discloses the claimed invention."

Accordingly, Appellant has properly addressed the combination of Ward in view of Glassen.

(ii) Appellant respectfully submits that the Examiner newly argues the test for obviousness by citing In re Keller, 642 F.2d 413 (CCPA 1981). The Examiner asserts that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.

With respect to Glassen, as mentioned in Appellant's Appeal Brief, Glassen describes a method and apparatus for determining which components of an I/O configuration are shared by other components of the configuration. Glassen discloses a table of I/O channel path identifiers that contain a plurality of fields used to determine which channel path and I/O device address will be used when a subsequent instruction specifying the programmable subchannel is used by the program. By noting which channel paths are used to obtain configuration-data records, which are stored in the program-designated location in main memory to identify the control unit of an I/O device, and examining the unique identifiers provided for I/O items, Glassen's mechanism can determine which I/O devices are accessible through the same control unit, and which control units provide access to the same I/O device.

With respect to Ward, as mentioned in Appellant's Appeal Brief, Ward describes a method and apparatus for transferring control data between first and second entities using a shared memory. When two entities are transferring data or commands, each entity enqueues and dequeues control elements, which convey control information such as requests, replies, events and errors between entities, for the transfer on the outbound pipe and the inbound pipe, respectively. This local control information is, in part, control information generated at the entity and, in part, is surrogate control information stored by the other entity in shared memory that is accessible by both entities. Thus, before an entity begins to enqueue or dequeue control elements, it retrieves the other entity's surrogate information as a single addressable block from shared memory and distributes it to its own local storage. Likewise, after an enqueue or dequeue of control elements, the entity assembles all of its local generated control information and places it as a single addressable block to shared memory.

Appellant respectfully submits that the combined teachings of Ward and Glassen would not teach or suggest a first device issuing a request comprising a plurality of fields including device configurable field to a second device, and the second device issuing a reply comprising a plurality of fields, one of which contains a copy of the data located in the device configurable field of the request to the first device.

Furthermore, Glassen does not even disclose a device configurable field. In particular, Glassen discloses:

Accordingly, step 10 generates in the CEC memory a list of all CHPIDs [channel path identifiers] attached to the CEC's I/O subsystem. The list is a table having an entry for each identified channel, and a plurality of fields are provided for each entry in the table two of the fields in each entry contain the CHPID value and the channel type (e.g., serial or parallel I/O), respectively; and the other fields in each entry are empty. The table entries may be sorted by CHPID value.

(Glassen Col.5, line 65 to Col.6, line 5)(emphasis added).

Accordingly, Examiner's reliance on Glassen teaching the deficiency of a request having a device configurable field in Ward is incorrect. Furthermore, to show obviousness, three basic criteria must be met. First, there must be some motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally the prior art references (or references when combined) must teach or suggest all the claim limitations. See In re Vaeck, 947 F.2d 488 (Fed. Cir. 1991). Here, as indicated above, the combination of Ward with Glassen fails to disclose or suggest all of the claimed limitations, therefore, Appellant respectfully submits that for at least the above reasons, the §103 rejection on appeal is improper.

CONCLUSION

For the reasons indicated in this reply brief as well as the reasons indicated in Appellant's Appeal Brief which has been previously submitted, Appellant respectfully submits that the rejection of claims 1 through 10 under 35 U.S.C. §103 as being unpatentable over Ward, U.S. Patent 5,448,708, in view of Glassen, U.S. Patent 5,671,441 is improper. Reversal of the §103 rejection on

appeal is respectfully requested.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: Jan. 7, 2000

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